

REMARKS

Favorable reconsideration, reexamination, and allowance of the present patent application are respectfully requested in view of the foregoing amendments and the following remarks. The foregoing amendments are fully supported by the specification, at least, in paragraphs [0027] and the examples.

Amendments

Claim 1 is amended and claims 2-7 are cancelled. Claims 1 and 8-10 are currently under examination. It is also respectfully noted that the new rejection regarding the lack of recitation of a recovery step under 35 U.S.C. §112, 2nd paragraph could have been made in the last Office Action, and therefore the present Office Action should not be final. A withdrawal of the finality of the previous Office Action is respectfully requested.

Information Disclosure Statement (IDS)

Applicant notes that the List of Potentially Related Pending Applications submitted as part of the Information Disclosure Statement filed on March 30, 2005, has not been initialed and returned by the Examiner.

Applicant respectfully submits that the List of Potentially Related Pending Application included with the Information Disclosure Statement of March 30, 2005, fully complies with 37 C.F.R. §§ 1.97, 1.98, and therefore respectfully requests consideration of all of the documents cited therein, and return to Applicant of a copy of the Examiner-initialed List of Potentially Related Pending Applications.

Rejection under 35 U.S.C. § 112, second paragraph

In the Office Action, beginning at page 2, Claims 1, 4 and 8-10 were rejected under 35 U.S.C. § 112, second paragraph, as reciting subject matters that allegedly are indefinite. Applicant respectfully requests reconsideration of this rejection.

For the purpose of advancing prosecution, a recovery step has been added to claim 1, although Applicants do not necessarily agree with the basis for the rejection.

It is stated on page 2 that the recitation of “a processed product thereof” is vague and indefinite, however no reason is given. Claim 1 has been amended to recite “a processed product of the cells of *Escherichia coli*”, which is very clear and definite.

It is stated on page 2 that the recitation of “soluble-type MMO” is vague and indefinite, in that “a definition should be provided in the claim”. Claim 1 has been amended to recite that the soluble-type MMO is “of *Methylococcus capsulatus*”, which is very clear and definite. Furthermore, the specification in paragraph [0006] describes the art-known term “soluble-type MMO”, and refers to art that describes this term and its meaning. Art-recognized terms do not need to be further defined in the specification, and certainly not in the claims.

On page 2 of the Office Action, it is asserted that claim 10 is vague and indefinite because the extent of hybridization is set forth. However, Claim 10 is not vague and indefinite because the conditions under which hybridization is conducted are clearly defined in claim 10 (b). Furthermore, one of ordinary skill in the art can easily determine whether a DNA can hybridize with the nucleotide sequence of SEQ ID NO: 4 under the conditions described in claim 10 (b), therefore it is not necessary to recite the extent of hybridization.

As mentioned above, the new rejection regarding the lack of recitation of a recovery step could have been made in the last Office Action, and therefore the present Office Action should not be final. A withdrawal of the finality of the previous Office Action is respectfully requested.

For at least the foregoing reasons, Applicant respectfully submits that Claims 1, 4 and 8-10 fully comply with 35 U.S.C. § 112, second paragraph, and therefore respectfully requests withdrawal of the rejection thereof under 35 U.S.C. § 112.

Rejection under 35 U.S.C. § 103(a)

In the Office Action, beginning at page 2, Claims 1, 4 and 8-10 were rejected under 35 U.S.C. § 103(a), as reciting subject matters that allegedly are obvious, and therefore allegedly unpatentable, over the disclosure of Lloyd et al. taken with Stainthorpe et al. and West et al. Applicant respectfully requests reconsideration of this rejection.

Although Applicants continue to disagree with the assessment of the claimed process as a 'product-by-process' claim, Claim 1 has been amended to remove any implication of a product by process, in that the expression of the recited genes is now recited as a characteristic of the cell. The process of how the cell gained that characteristic, i.e. by transformation, is no longer present in the claim, and hence, the cell is not the claimed product of a claimed process. All characteristics of the cell must be considered as limitations of the claim for the purposes of evaluating the prior art.

Furthermore, expression of all the MMO component genes is required by this claims, and none of the prior art, either singly or in combination teach or suggest that the Component A, B and C genes of MMO can be simultaneously expressed in a microorganism that previously could not assimilate an alkane. The inventors of the present invention succeeded in simultaneous expressions of all the genes for the first time, which imparted an ability to produce an alcohol from an alkane to the microorganism.

Additionally, *Escherichia coli* is cultured at 20 to 30°C in the method of the present invention, although optimum temperature for growth of *E. coli* is generally around 37°C as described in paragraph [0072] of the specification. Therefore, this is not a mere choosing of culture conditions, but actually is a surprising effect of an unusual culture condition, given the optimum growth temperature for *E. coli*. Therefore, the surprising effect is not taught or suggested by the prior art.

For at least the foregoing reasons, Applicant respectfully submits that the subject matters of Claims 1, 4 and 8-10, each taken as a whole, would not have been obvious to one of ordinary skill in the art at the time of Applicant's invention, are therefore not unpatentable under 35 U.S.C. § 103(a), and therefore respectfully requests withdrawal of the rejection thereof under 35 U.S.C. § 103(a).

Conclusion

For at least the foregoing reasons, Applicant respectfully submits that the present patent application is in condition for allowance. An early indication of the allowability of the present patent application is therefore respectfully solicited.

If Examiner Marx believes that a telephone conference with the undersigned would expedite passage of the present patent application to issue, she is invited to call on the number below.

It is not believed that extensions of time are required, beyond those that may otherwise be provided for in accompanying documents. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and the Commissioner is hereby authorized to charge fees necessitated by this paper, and to credit all refunds and overpayments, to our Deposit Account 50-2821.

Respectfully submitted,

By: 
Shelly Guest Cermak
Registration No. 39,571

U.S. P.T.O. Customer No. 38108
Cermak & Kenealy, LLP
515 E. Braddock Road, Suite B
Alexandria, VA 22314
703.778.6608

Date: May 15, 2007